

WHAT IS CLAIMED IS(US)

1. A foamed resin laminate sound insulation board which is a laminated plate comprising at least an unfoamed formable resin to be foamed at a foaming temperature by heating and a hard plate.

2. A foamed resin laminate sound insulation board which is a laminated plate comprising at least an unfoamed first foamable resin to be foamed at a foaming temperature by heating, an unfoamed second foamable resin to be foamed at a foaming temperature by heating, and a hard plate.

3. The foamed resin laminate sound insulation board according to claim 2 wherein the foaming temperature of the first foamable resin is differed from that of the second foamable resin.

4. The foamed resin laminate sound insulation board according to claim 2 wherein the melting point of the first formable resin is differed from that of the second foamable resin.

5. The foamed resin laminate sound insulation board according to claim 1 wherein the laminated plate is formed by laminating a non-foamable material not foamable by heating, said foamable resin, and the hard plate in this order.

6. The foamed resin laminate sound insulation board according to claim 5 wherein the non-foamable material is a non-foamable resin not foamable by heating.

7. The foamed resin laminate sound insulation board according to claim 1 wherein the laminated plate is formed by laminating said foamable resin, the non-foamable resin not foamable by heating, and the hard plate in this order.

8. The foamed resin laminate sound insulation board according to claim 1 wherein said foamable resin is heated at a temperature lower than the foaming temperature, and thermally fused to form the laminated plate.

9. The foamed resin laminate sound insulation board according to claim 6 wherein said non-foamable resin is heated at a temperature lower than said foaming temperature, and thermally fused to form the laminated plate.

10. The foamed resin laminate sound insulation board according to 6 wherein the melting point of said non-foamable resin is higher than the melting point of said foamable resin.

11. The foamed resin laminate sound insulation board according to claim 6 wherein said non-foamable resin is a thermosetting resin or thermoplastic resin.

12. The foamed resin laminate sound insulation board according to claim 1 wherein said foamable resin is a thermosetting resin or thermoplastic resin.

13. The foamed resin laminate sound insulation board according to claim 11 wherein the melting point of said thermoplastic resin is 100-260°C.

14. The foamed resin laminate sound insulation board according to claim 12 wherein the melting point of said thermoplastic resin is 100-260°C.

15. The foamed resin laminate sound insulation board according to claim 1 wherein said foamable resin is formed by mixing a foaming agent decomposable by heating to the resin.

16. The foamed resin laminate sound insulation board according to claim 1 wherein said foaming temperature is set to 120-300°C.

17. A foamed resin laminate sound insulation board in which the foamed resin laminate sound insulation board according to claim 1 is heated to said foaming temperature to make the foamable resin to a foamed resin.

18. The foamed resin laminate sound insulation board according to claim 17 wherein said foamable resin is made into the foamed resin by heating after the foamed resin laminate sound insulation board is worked into a prescribed shape.

19. A method for manufacturing a foamed resin laminate sound insulation board comprising:

a laminating process for laminating at least an unfoamed foamable resin to be foamed at a foaming temperature by heating and a hard plate; and

a process for integrating the laminate of said foamable resin and the hard plate at a temperature lower than the foaming temperature of the foamable resin.

20. The method for manufacturing a foamed resin laminate sound insulation board according to claim 19 comprising the laminating process, said laminate integrating process, and a heating process for heating the laminate to the foaming temperature of said foamable resin to make said foamable resin to a foamed resin.

21. The method for manufacturing a foamed resin laminate sound insulation board according to claim 20 comprising said laminating process, the laminate integrating process, a molding process for working the laminate

into a prescribed shape in the integrated state, and said heating process.

22. The method for manufacturing a foamed resin laminate sound insulation board according to claim 20 wherein said heating process is carried out simultaneously with a heating treatment for baking finish.

23. The foamed resin laminate sound insulation board according to claim 2 wherein said foamable resin is heated at a temperature lower than the foaming temperature, and thermally fused to form the laminated plate.

24. The foamed resin laminate sound insulation board according to claim 7 wherein said non-foamable resin is heated at a temperature lower than said foaming temperature, and thermally fused to form the laminated plate.

25. The foamed resin laminate sound insulation board according to claim 7 wherein the melting point of said non-foamable resin is higher than the melting point of said foamable resin.

26. The foamed resin laminate sound insulation board according to claim 7 wherein said non-foamable resin is a thermosetting resin or thermoplastic resin.

27. The foamed resin laminate sound insulation board according to claim 2 wherein said foamable resin is a thermosetting resin or thermoplastic resin.

28. The foamed resin laminate sound insulation board according to claim 26 wherein the melting point of said thermoplastic resin is 100-260°C.

29. The foamed resin laminate sound insulation board according to claim 27 wherein the melting point of said thermoplastic resin is 100-

260°C.

30. The foamed resin laminate sound insulation board according to claim 2 wherein said foamable resin is formed by mixing a foaming agent decomposable by heating to the resin.

31. The foamed resin laminate sound insulation board according to claim 2 wherein said foaming temperature is set to 120-300°C.

32. A foamed resin laminate sound insulation board in which the foamed resin laminate sound insulation board according to claim 2 is heated to said foaming temperature to make the foamable resin to a foamed resin.